CHARTER

FOR THE

William J. Hughes Technical Center Configuration Control Board (TCCCB) CMI-98-103

June 1, 2000

NAS CCB Co-Chair, AAF-1

NAS CCB Co-Chair, ASD-1

for TCCCB Chairperson, ACT-400

TCCCB PARTICIPANT CONCURRENCE

ACT-1
WJHTC Director — DATE 7/10/00

ACT-400
Laboratory Management Division — DATE 6/2/00

ACT-410
Hardware Engineering and Maintenance Branch — DATE: 6/1/00

ACT-420
Software Engineering and Administrative Branch — DATE: 6-2-00

WJHTC Communications Systems Engineer — DATE: 6/5/00

WJHTC Enroute Systems Engineer — DATE: 06/02/00

WJHTC Oceanic Systems Engineer — DATE: 6/2/00

WJHTC Terminal Systems Engineer — DATE: 6/5/2000

WJHTC Radar Systems Engineer — DATE: 6/5/00

TCCCB CHANGE HISTORY

The following table captures documentation changes to the TCCCB Charter.

DATE	CHANGE TYPE	PAGES	COMMENTS
03/12/98	Draft to Final	All	This change reflects the transition of this document from draft form to final approval for usage.
06/01/00	Class 1	All	This change reflects the transition of this document from draft form to final approval for usage.

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1.0 INTRODUCTION

This Charter establishes the William J. Hughes Technical Center (WJHTC) Configuration Control Board (CCB), and assigns responsibility for establishing the WJHTC Facility Baseline as well as supporting the management of NAS Test Bed subsystem baselines.

1.1 Purpose

The purpose of this TCCCB (TCCCB) charter is to document the authority for establishing the WJHTC Laboratory Baseline and to specify the authority for supporting the management and control of WJHTC baselines according to ACT-400 Configuration Management (CM) policies These policies are as follows:

1. Provide a control for the evaluation, agreement and approval of system/laboratory changes that will consistently ensure the integrity of product configurations and satisfy baseline requirements;

2. Provide an efficient system change control mechanism with regard to technical, cost and scheduling parameters associated with baseline change implementation;

3. Establish change control board procedures that allow for systematic impact analysis, approval, documentation, implementation/installation and maintenance processing of changes to controlled baselines; and

4. Ensure that the appropriate NAS test bed subsystem baselines accurately represent field baselines to support second level field maintenance.

1.2 Scope

The scope of this TCCCB Charter is specific to subsystems/laboratories resident within the WJHTC Laboratory's Red Brick Building (RBB), the Laboratory Enhancement Building (LEB) and Remote Radar Sites. Multi-user subsystems are classified as subsystems under use by several organizations. Their usage is scheduled, operated and maintained by ACT-400 personnel. Single-user subsystems, resident within the WJHTC laboratories, are manned by a specific organization and generally will not require scheduling and operations by ACT-400. However, identification and tracking of changes to laboratory layouts, hardware platforms, associated Commercial Off-the-Shelf (COTS) operating system software, and subsystem interfaces utilizing floor space within the NAS Laboratories may undergo review by the TCCCB.[1]

1.3 Background

The WJHTC supports dynamic Research and Development (R&D), Development, Test and Evaluation (DT&E), and Operational Test and Evaluation (OT&E) environments for FAA NAS environments, such as En Route, Terminal, Traffic Management, Communications, etc. The WJHTC houses laboratories duplicating the operational capabilities and performance of fielded NAS subsystems. These subsystems are in varying stages of life cycle management. Most WJHTC resident subsystems are undergoing in-service management operations, enhancements/improvements, and maintenance. Other subsystems may be undergoing Investment Analysis R&D and Solution Implementation DT&E and OT&E.

While resident within the WJHTC NAS Laboratories, these subsystems are under the ownership of their associated Integrated Product Team (IPT) up to the completion of Contractor Acceptance inspection (CA). Upon system acceptance, the hardware baseline depending upon IPT program office requirements, may be formally transitioned to the Laboratory Management Division, ACT-400.[2]

[1] Commercial Off-the-Shelf (COTS) Operating System Software helps to run the NAS support Systems

[2] The transitioning of subsystem baselines from developers to Programs Offices is performed by a Quality Reliability Officer (QRO) through the approved CA process.

1.4 Authority

The WJHTC CCB (TCCCB) is authorized by the National Airspace System Configuration Control Board (NAS CCB) in accordance with the FAA Order 1800.57, NAS Configuration Control Board, and the CM policies and guidelines specified in the FAA Acquisition Management System (AMS), as well as FAA Order 1800.66, NAS Configuration Management.

This Charter has been developed by the ACT-400 Configuration Management Working Group (CMWG). The CMWG comprises key personnel from across the Laboratory Management Division who performs laboratory management, facility engineering, space management, system engineering, software engineering, operations maintenance and configuration management activities on a daily basis. The CMWG is part of the TCCCB standard membership as described Section 2.0. Prior to implementing the TCCCB, this charter will undergo the approval process illustrated in Figure 1.4-1.

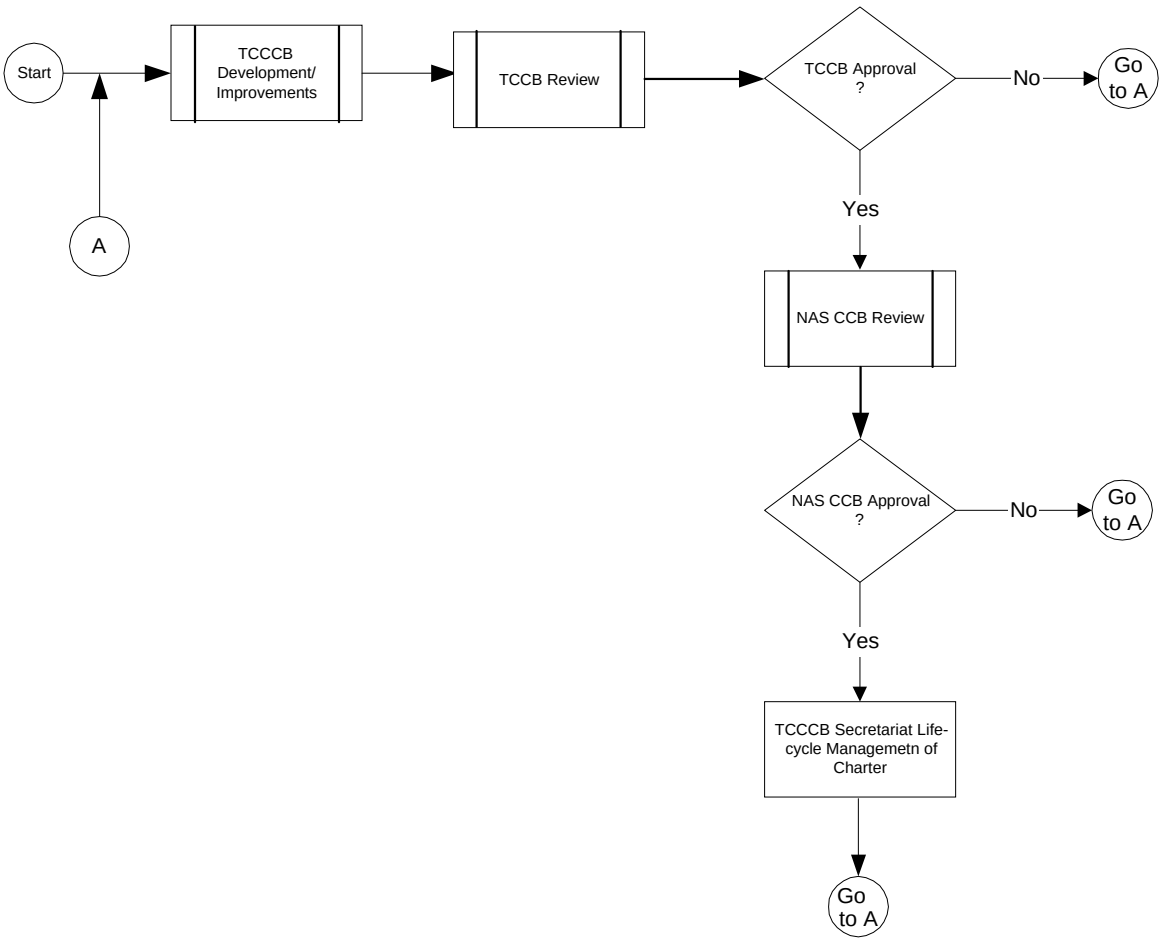

Figure 1.4-1. TCCCB Charter Approval Process

2.0 TCCCB MANAGEMENT

Effective management of the TCCCB is predicated upon established organizational authority and responsibilities, specific membership participation, usable configuration control mechanisms, well defined administration guidelines and proven change control processes.

2.1 TCCCB Responsibilities

Changes affecting the Technical Center Laboratory baseline and hardware system baselines/configurations are managed through the TCCCB. The TCCCB is responsible for:

1. Performing TCCCB functions as established by this charter.

2. Approving, implementing and improving the TCCCB Operating Procedures.

3. Identifying and verifying hardware baselines and laboratory configurations under the auspices of ACT-400 configuration management.

4. Ensuring strict adherence to configuration control procedures in processing changes to the baselines under TCCCB responsibility.

5. Ensuring an accurate review and thorough evaluation of case files/NAS Change Proposal (NCPs) impacting the WJHTC facility and/or NAS test bed subsystem baselines. Actual text changes to baselined documents shall accompany the case file/NCP being addressed by the TCCCB.

6. Reviewing proposed hardware system changes for technical, interface, financial, schedule and benefit impacts.

7. In reviewing proposed changes, due consideration by the TCCCB will be given to improving system operational effectiveness (including safety), providing for adequate logistics support requirements and/or bringing about significant life cycle cost savings. Savings could be relative to the costs of research, development, test, procurement, production, installation, field test and acceptance, cutover to service, maintenance, operations, decommissioning, dismantling, salvaging, excessing and final disposition.

8. Issuing TCCCB Configuration Control Decisions (CCDs), where appropriate, and ensuring that CCD actions are completed as directed.

9. Approving the schedule for implementation of approved changes; i.e., equipment or laboratory configuration modifications, and ensuring these changes are implemented as scheduled.

10. Approving changes to improve the TCCCB Charter and Operating Procedures.

11. Approving additions, deletions or other modifications to the listing of WJHTC NAS Laboratory hardware CI platforms documented in section 2.7 of this charter.

12. Approving changes to other documents managed by the TCCCB that are not subject to the NAS NCP process.

13. Reviewing cost and schedule impacts associated with a system or laboratory change and determining its effect on internal and external interfaces, level of technical performance and all other interdependent system characteristics

14. Processing and managing all hardware transmittal documents associated to the NAS test bed subsystem baselines. Ensuring implementation and tracking of installed Electronic Equipment Modification Handbooks (EEMs), Facilities and Equipment Modification Handbooks, (FEMs), Plant Equipment Modification Handbooks (PEMs), and System Support Modifications (SSMs), where the responsibility for installation and/or modification is within the ACT-400 domain.

15. Ensuring that case files for TCCCB baselined equipment and/or facilities (not nationally baselined or maintained) are coordinated with the regions and/or the Mike Monroney Aeronautical Center (AMC) with similar equipment prior to being addressed by the TCCCB.

16. Coordinating change activity between the NAS, IPT and Regional CCBs with regard to the NAS Test Bed CIs listed in Appendix A.

2.2 TCCCB Participants

Members of the TCCCB include, at a minimum, the ACT-400 Division Manager, standard (permanent) and ad hoc representation potentially impacted by changes to the laboratory configuration or hardware system baseline.

Figure 2.2-1 illustrates the TCCCB Membership. The following subsections identify membership responsibilities.

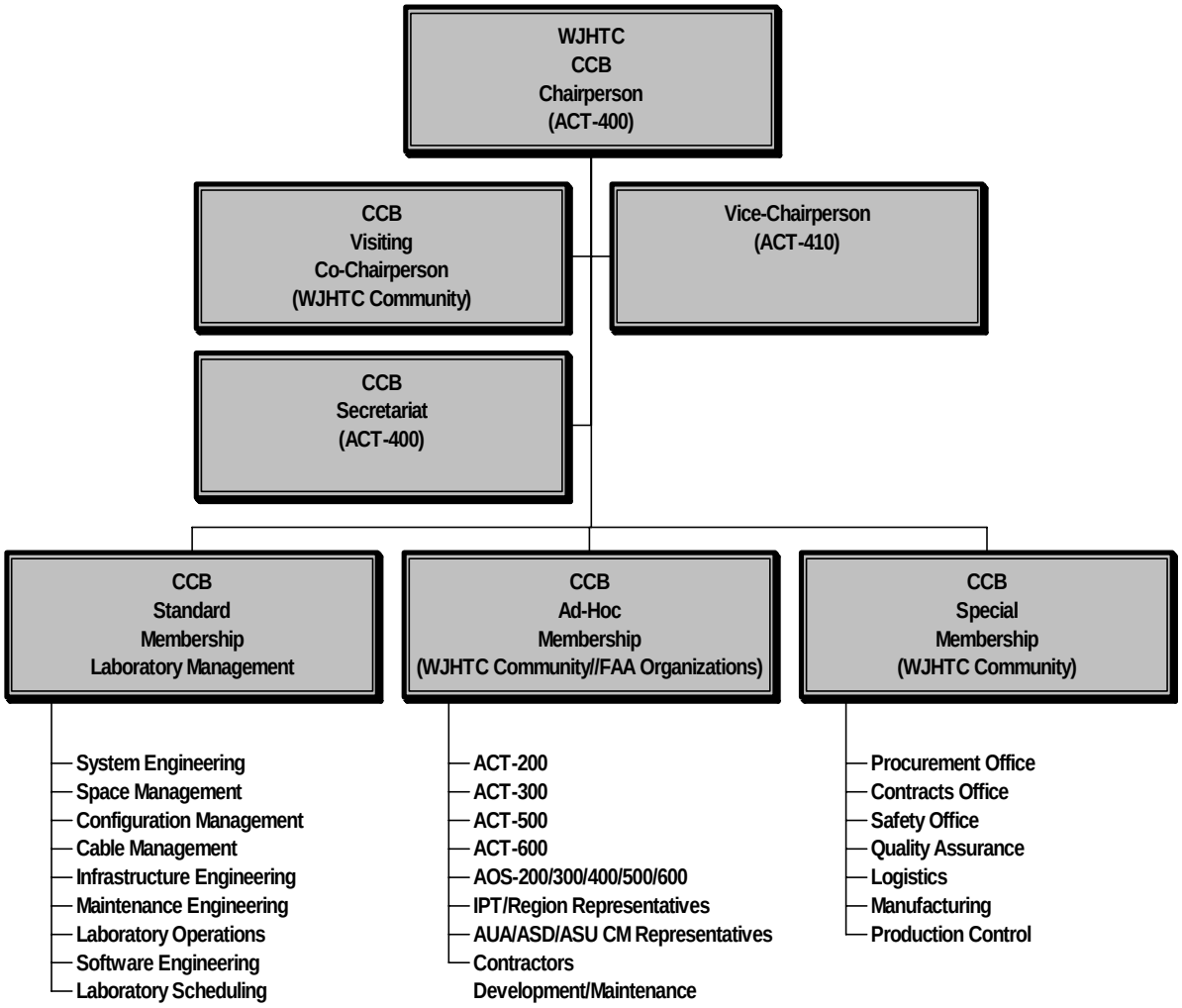

Figure 2.2-1. TCCCB Membership

2. 2.1 TCCCB Chairperson

The ACT-400 Program Director acts as the Chairperson of the TCCCB and is responsible for:

1. Approving, disapproving, transferring or deferring change requests.

2. Facilitating conflict resolution of board issues.

3. Authorizing the implementation of hardware or COTS operating system software change proposals.

4. Approving final decisions concerning all proposed changes presented to the TCCCB for disposition.

5. Approving entries into the meeting minutes.

2.2.1.1 TCCCB Vice-Chairperson

The ACT-410 Branch Manager or designee acts as the Vice Chairperson of the TCCCB and is responsible for TCCCB Chairperson responsibilities in the absence of the TCCCB chairperson.

2.2.1.2 TCCCB Secretariat

The ACT-410 Branch CM Lead acts as the TCCCB secretariat and is responsible for conducting the TCCCB meetings. The CM Lead identifies the subjects to be considered by the TCCCB and schedules meetings. The CM Lead coordinates with other CCBs and review boards on changes requiring their concurrence and/or approval.

The Secretariat is supported by the ACT-410 CM Team in:

1. Preparing agendas and change papers for evaluation and reviewing change packages for completeness.

2. Determining classification type changes and priorities, identifying problems related to baselines affected by proposed changes and coordinating change impact analysis.

3. Providing current Configuration Item baseline status accounting, tracking TCCCB change proposals and action items and providing a closed loop tracking system for monitoring change implementation and retrofits.

4. Providing clarification of hardware installation changes (as necessary).

5. Retrieving, identifying and controlling any new documentation for library inclusion, which may be affected by system changes.

6. Coordinating documentation production schedules for the preparation of TCCCB approved data packages and identifying production resource problems.

7. Coordinating update of changes affecting official engineering drawings; i.e., lab diagrams, etc.

8. Recording and reproducing official changes to TCCCB control records as needed.

9. Monitoring and reporting action item status through resolution.

10. Providing input to the minutes of each TCCCB, collecting membership inputs, compiling, producing, and distributing official TCCCB minutes, notices and change requests. Provide materials and prepare TCCCB decisions for signature.

2.2.1.3 TCCCB Co-Chairperson

The TCCCB Co-Chairperson is determined by the organization sponsoring the proposed change activity brought before the TCCCB. In the event multiple changes are brought before the board affecting several different organizations, the co-chair responsibility will transfer to the organizational representative from which the proposed change was generated. The TCCCB chairperson will determine who the respective co-chairs will be based upon the anticipated attendance of organizational representatives for the TCCCB meeting. The TCCCB Co-Chairperson

1. Provides subject matter knowledge, background, and technical expertise to the TCCCB chairperson with respective to the proposed change activity affecting their organizational responsibility.

2. Provides recommendations to the TCCCB chairperson to approve, disapprove or defer proposed activities under review.

3. The TCCCB co-chair recommends TCCCB membership to the Chairperson to support specific changes under review.

4. Verifies that actions identified by the Chairperson are completed by their respective organization and that feedback is provided to the TCCCB secretariat regarding the accomplished activity.

2.2.2 TCCCB Standard Membership

Standard membership includes representatives from across the Laboratory Management organizations. These include technical members of the system engineering, laboratory engineering, engineering and technical support, software engineering, and scheduling and operations staffs whose expertise is required.

The TCCCB standard members from each Laboratory Management Division organizational element are responsible for evaluating the impact of the proposed changes and the associated affects regarding:

1. Soliciting and obtaining space related information for all existing and pending technical center subsystems,

2. Developing, updating and maintaining space allocation plans for current and “out” years,

3. Developing and maintaining laboratory equipment configuration plans for existing and pending subsystems,

4. Supporting the configuration of hardware system products and related equipment in the NAS laboratories,

5. Performing site surveys, power requirements analysis and design, space allocation determination, cooling requirements analysis, and system decommissioning planning and implementation;

6. Evaluating funding allocations, laboratory audio requirements, and data and video switching system requirements;

7. Documenting system hardware and software products,

8. Implementing cable management requirements including configuration design, installation, maintenance and modification, cable removal and maintaining cable management database,

9. Performing In-Service management activities such as operations, customer services, training, documentation and reporting;

10. Analyzing and correcting system disruption and downtime,

11. Scheduling laboratory resources and incorporating the system schedule changes into the ACT-420 database residing on the ACT-400 sever, and

12. Performing software engineering services for NAS Laboratory COTS Operating System Software and support ing NAS applications software implementation.

2.2.3 TCCCB Ad Hoc Membership

Ad Hoc membership are members whose participation is required only when matters related to their particular areas of responsibility and/or ownership are scheduled; i.e., WJHTC organizations, IPT organizations, contractor organizations. Ad Hoc members evaluate proposed changes to NAS laboratory configurations and analyze the impact of the changes on their particular program requirements and needs.

Ad hoc members are also responsible for advising and counseling the Chairperson in their areas of expertise. Members may be allowed to provide presentations to clarify specific areas of subject matter being considered

by the TCCCB and representing their organizations and in concurring or nonconcurring in decisions made by the Chairperson and in accepting action items assigned by the Chairperson.

The TCCCB Ad Hoc membership may include, but not limited to, representation from:

1. ACT-200, Air Traffic Control Engineering and Test Division
2. ACT-300, Communication, Navigation and Surveillance Division
3. ACT-500, NAS System Engineering and Analysis Division
4. ACT-600, Facility Services and Engineering Division
5. AOS-200, National Airway Systems Engineering Division
6. AOS-300, National En Route Automation Engineering Division.
7. AOS-400, National Terminal Systems Engineering Division.
8. AOS-500, Communications, Flight Service, Weather/IRM Division
9. ASD-1, Office of System Architecture and Investment Analysis
10. ASU-1, Office of Acquisitions

2.2.4 Special Membership

Special members of the TCCCB are also standard or permanent members but their participation is required only when matters related to their particular areas of responsibilities are scheduled. Special members advise and counsel the Chairperson in their areas of expertise. Special members are extended an open invitation to all TCCCB meetings and may attend on a regular basis as convenient.

Special members include, but are not limited to:

1. Contracts: Contracts potentially affected by change proposals.
2. Safety: All matters relating to safety requirements.
3. Procurement: Status of Hardware/Software maintenance and parts on orders.
4. Production Control: Workflow status.
5. Quality Assurance: Quality program compliance.
6. Logistic: Support impacts and retrofits.
7. Manufacturing shop impacts and commitments.

2.3 TCCCB Administration

The TCCCB Secretariat is responsible for scheduling meetings on a regular basis as approved by the Chairperson and for coordinating all TCCCB administrative activities. The Secretariat's objectives in administering the TCCCB span all CM functions related to new baseline establishment or changes caused by baselined system or laboratory modifications, Installation and Integration (I&I) or Implementation of planned future upgrades, feature enhancements, and technology insertion. Administration of these objectives is two fold:

1. **Level 1 Configuration Control**. Implement and maintain an affective CM program over subsystems and laboratories for which In-service Management responsibilities have been transitioned to ACT-400.

2. **Level 2 Configuration Control**. Implement and maintain CM surveillance and status reporting processes for laboratories, which reside in WJHTC; but the management responsibilities are under control of other organizations at the WJHTC or IPTs.

2.3.1 Other Organization System Ownership

The NAS subsystems undergoing Investment Analysis R&D and Solution Implementation DT&E, and OT&E activities are owned and controlled by other organizations sponsored by the FAA's IPT Program Offices. The TCCCB understands that the control of these type subsystems falls outside the jurisdiction of ACT-400. However, ACT-400 is responsible for the WJHTC laboratory engineering activities, which may include facility environmental engineering, system and software engineering, space planning, site surveys and laboratory configuration modifications. These type changes are often made to satisfy installation and integration requirements as prescribed by each system's Configuration Baseline. The TCCCB activities related to subsystems owned by other organizations are focused in the area of Level 2. It should be noted that laboratory configuration changes affecting space and environmental allocations would be handled as level 1 CM.

2.3.2 System Laboratory Testbed Equipment

Testbed and/or simulation configurations associated with ACT-400 laboratories are used by WJHTC organizations for the development and testing of enhancement and/or modifications to fielded system baseline applications, R&D prototype applications, platforms and administrative applications and platforms. Often, these type laboratories are under the ownership of WJHTC organizations. However, ACT-400 supplies laboratory environmental services and resources to assist in the effective operations and maintenance of these laboratories; and therefore, continuously surveys laboratory configuration and reports configuration changes through Level 2 Configuration Management.

If transition of ownership occurs, ACT-400 assumes custodianship of all Government Furnished Equipment (GFE) used for system operations, maintenance of hardware, Commercial Off-the-Shelf (COTS) components, and operating system software integrated into a testbed configuration.

2.3.3 Laboratory System Interfaces

Many changes to system products resident within the WJHTC NAS laboratories impact external interfaces between different system products. These interfaces may be physical (i.e. cabling, connectors, shared racks, etc.). These interfaces may also be functional (i.e. input signals, output, test scenarios, etc.).

The TCCCB is responsible for managing, controlling and monitoring laboratory configuration changes, but additionally, in the case of multiple laboratory/system product change issues, the TCCCB performs the following:

1. For a case in which all affected laboratories are owned by ACT-400, the ACT-410 System Engineer, through the auspices of the TCCCB for each system product, is required to approve the change prior to implementation.

2. For a case in which at lease one laboratory is owned by ACT-400 and another or multiple laboratories are under ownership by other organizations, the ACT-410 System Engineer is responsible for approving changes under the TCCCB jurisdiction. The ACT-410 System Engineer is also responsible for coordinating changes targeted for other system products potentially affected by the interfacing subsystems prior to implementation. The TCCCB is responsible for communicating approval to the other affected system owners.

3. For a case in which no laboratories are owned by ACT-400, the TCCCB documents the change for information only. These changes may later be certified by the ACT-410 System Engineer and CM Team in the event of ownership transition of an affected system product to ACT-400 custodianship.

2.4 TCCCB Configuration Control Decisions

Configuration Control Decisions (CCDs) are issued by the TCCCB Chairperson identifying the disposition of an NCP or local change vehicle. After a case file is assigned NCP status action is required; An NCP not yet submitted to the TCCCB may be withdrawn. Prior to the assignment of an NCP number, a case file may be withdrawn or rejected during the review process.

Changes initiated at the ACT-400 NAS laboratory level that affect an approved acquisition program baseline are initially evaluated in the areas of:

1. engineering services,

2. operational capabilities,

3. resources,

4. cost and scheduling.

by the TCCCB for impact to ACT-400:

These type changes are packaged as case files and/or NCPs and forwarded with recommendations to the ACM-20 Control Desk for processing. TCCCB recommendation for promoted changes may also addresses baseline impacts, technical, cost and schedule impacts, change pages to documentation, funding appropriation and an ACT-400 proposed plan of action necessary to accomplish the change.

All proposed WJHTC NAS laboratory changes, recommendations, and decisions are processed in accordance with the approved TCCCB Operating Procedures[3]. The TCCB Chairperson makes the final decision based on complete counsel of the attending TCCB membership.

The Chairperson may:

1. Approve as written and issue a decision which establishes a new baseline or describes actions for accomplishing the configuration change to an existing baseline.

2. Disapprove with reasons clearly stated in the CCD.

3. Approve with specific non-substantive changes and issue a decision clearly stating changes. If substantive changes are required, an amended change proposal data package will be processed.

4. Defer action pending the availability of additional information or the completion of an action item providing clarification of the issues.

Responsibility for providing further information or completing an action will be assigned by the Chairperson, to a specific person/organization with a specific due date. Action on this type of change will not be indefinitely deferred.

The TCCCB decisions may be appealed by an organization impacted by the proposed change as outlined in TCCCB Operating Procedures.

[3]The TCCCB Operating Procedures are documented and included in the ACT-410 CM Procedures Manual.

2.5 TCCCB Charter Revision Process

This Charter is not to be changed without authorization from the TCCCB and the NAS CCB. All proposed changes to this charter are subject to ACT-400's Request for Improvement (RFI) Process, which is defined and documented in ACT-410 CM Process and Procedures Manual (CPPM), CMI-98-102.

2.6 Delegation of TCCCB Authority

The TCCCB authority may be delegated to the appropriate level as determined by the CCB Chairperson. Additionally, when an urgent proposed change request is submitted, or in the event of other specific circumstances, the TCCCB Chairperson must call an emergency TCCCB meeting[4]. If unable to convene an emergency meeting, the Chairperson may have to approve/disapprove changes out of board.

All change requests processed outside the normal TCCCB process are documented and communicated to the standard members as soon as practicable. Questions and concerns regarding TCCCB decisions are addressed to the TCCCB Secretariat and are presented to the TCCCB Chairperson.

The TCCCB may not charter subordinate CCBs

2.7 CIs Under TCCCB Control

Appendix A represents those products under TCCCB jurisdiction.

[4] ACT-410's CM Web Application will support Emergency Changes via the TCCCB workflow Process.

3.0 TCCCB Operating Procedures

The TCCCB Operating Procedures (CMI-98-104) is a companion document to this charter, and it is available under separate cover. The operating procedures define the steps to execute the responsibilities assigned in the charter

APPENDIX A – WILLIAM J. HUGHES TECHNICAL CENTER CONFIGURATION ITEMS (CIs)

The "Not Nationally Maintained" CIs listed below, which comprise hardware, software, firmware and documents, are under the control and management of the TCCCB.

1. **WJHTC Laboratory System Equipment** – This equipment pertains to the NAS subsystem replicas as well as non-NAS WJHTC unique equipment. The TCCCB manages local changes and promotes proposed subsystem configuration modifications to the NAS CCB for review and disposition.

2. **Laboratory Life-Cycle Documentation** – The TCCCB will manage laboratory life-cycle documentation, associated with laboratory subsystems. The various types of documentation being managed include but are not limited to:

- Test Plans
- Test Procedures
- Subsystem Requirements Documents
- Subsystem Description Documents
- Subsystem Maintenance Manuals
- Etc.

3. **WJHTC Facility Baseline –** The TCCCB is responsible for managing the WJHTC Laboratory baseline in accordance with the National CM Standard Procedure Document for Facility Baselining. This includes:

- Space Management/Laboratory As-Built Specifications
- Power Panels,
- Equipment Layout Drawings,
- Etc.